

Claim 1 recites a method of growing a gallium nitride single crystal that comprises specifically high temperature and nitrogen-containing atmospheric pressure ranges that defy the conventional wisdom known in this field while achieving the unexpected results and advantages of the present invention (see Sections 4-9 of the Rule 132 Declaration filed June 22, 2010).

To the contrary, Sasaki discloses an extremely wide temperature range of 350°C to 1500°C and an even wider pressure range of 100 Pa to 200 MPa (i.e., 0.00099 atms - 1974 atms) as a production method to be used (see paragraph [0029] of Sasaki). As such, Applicants respectfully submit that there is no enabling disclosure in Sasaki regarding the use of the claimed very narrow and specific atmospheric (with inclusive nitrogen) pressure and high temperature ranges required to accelerate the growth of a single gallium nitride single nitride crystal, as in the present invention. Further, Applicants respectfully submit that MPEP §2131.03 (Anticipation of Ranges) II clearly states that if the claims are directed to a narrow range and the reference teaches a broad range, it may be reasonable to conclude that the narrow range is not disclosed with “sufficient specificity” to constitute an anticipation of the claims. Further, MPEP §2131.03 also states that any evidence of unexpected results within the narrow range may also render the claim unobvious.

During the telephonic interview, Examiner Song agreed to withdraw the §102 rejection, but indicated that he needed to formally consider whether a §103 rejection should be asserted instead.

As discussed during the interview, Applicants have already provided evidence of unexpected results to the PTO, specifically in the Declaration discussed above, in the Amendment filed October 22, 2010 (as described on page 4, line 19 - page 5, line 8 of the Amendment), and in the original specification (see Examples 1, 2, 4 and 5) of the pending

application. Applicants respectfully submit that the prior art of record neither discloses nor suggests the claimed invention nor the attendant advantages thereof (especially the crystal growth rate of at least 25 $\mu\text{m/hr}$ (claim 11)). Accordingly, Applicants respectfully submit that claim 1, and claims 4 and 14 depending therefrom, define patentable subject matter over the prior art of record and respectfully request that the above rejection be reconsidered and withdrawn.

2. Claims 5 and 13 were rejected under §103(a) over Sasaki in view of Sarayama (US 2002/0175338); and claim 6 was rejected under §103(a) over Sasaki in view of D'Evelyn (US 2006/0096521). Applicants respectfully submit that the arguments presented above distinguish claim 1 from Sasaki. Since the secondary references of Sarayama and D'Evelyn fail to overcome the deficiencies of Sasaki, and since claims 5, 6 and 13 depend either directly or indirectly from claim 1, these claims are also believed to be allowable over the applied prior art.

3. Claim 11 was rejected under §103(a) over Sasaki in view of Kitaoka (US 2004/0144300). Applicants respectfully continue to traverse this rejection.

Applicants previously traversed this rejection based on the arguments presented on page 11, line 12, through page 12, line 12 of the Amendment filed October 22, 2010. In light of those arguments, and all arguments presented to date, which are incorporated herein by reference, Applicants respectfully request reconsideration and withdrawal of all grounds of rejection based on the applied references of record.

In closing, Applicants appreciate the fact that Examiner Song has just been assigned to this case. Applicants believe that once Examiner Song has had the opportunity to review the

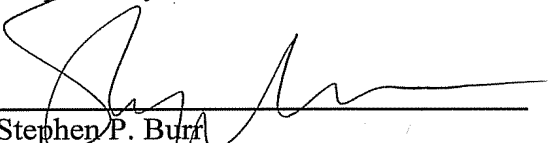
entire record and all evidence submitted to the PTO, he will agree that all pending claims define patentable subject matter over the applied references.

If Examiner Song believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, he is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

September 26, 2011
Date

Respectfully submitted,



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